

N61165.AR.005698  
CNC CHARLESTON  
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT FOR BUILDING NS-708  
CNC CHARLESTON SC  
06/03/1996  
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Ser: 162  
30 SEP 1996

MEMORANDUM

From: Director, Supervisor of Shipbuilding, Conversion and Repair, USN, Portsmouth  
Environmental Detachment Charleston, SC (SPORTENVDETHASN)

To: Southern Division Naval Facilities Engineering Command  
(Code 18B - Hayes Patterson)

Subj: UST ASSESSMENT REPORT FOR UST NS 708

Ref: (a) DHEC Underground Storage Tank Assessment Guidelines for Permanent  
Closure, Change-In-Owner and Change-In-Service, dated June, 1995

(b) SC Underground Storage Tank Control Regulations, R.61-92, Part 280

(c) South Carolina Department of Health and Environmental Control (SCDHEC)  
Comments on the Tank Management Plan, dated June 18, 1996

Encl: (1) UST Assessment Report for UST NS 708

1. Enclosure (1) is the UST Assessment Report for UST NS 708. The UST was an unregulated 280 gallon tank which supplied heating oil to building NS 708, a Naval Base Charleston residence. Removal was completed June 3, 1996. This report documents the tank's removal and serves as SPORTENVDETHASN's work completion report for all work associated with the removal of the subject tank.

2. The UST Assessment Report (AR) contains the information required by Appendix 4 of reference (a). Although reference (b) does not require an AR for unregulated UST's, reference (c) comments request that all reports be forwarded to the South Carolina Department of Health and Environmental Control's DOD petroleum contact.



E. R. Dearhart

L1 12396  
L6 12.10.96  
PLM

South Carolina Department of Health and Environmental Control (S.C.D.H.E.C.)  
Underground Storage Tank (UST) Assessment Report

Date Received

State Use Only

Submit Completed Form to:  
UST Regulatory Section  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201  
Telephone (803) 734-5331

**I OWNERSHIP OF UST(S)**

Agency/Owner: Southern Division, Naval Facilities Engineering Command, Caretaker Site Office

Mailing Address: P.O. Box 190010

City: N. Charleston

State: SC

Zip Code: 29419-9010

Area Code: 803 Telephone Number: 743-9985 Contact Person: LCDR Paul Rose

**II SITE IDENTIFICATION AND LOCATION**

Site I.D. #: N/A Unregulated

Facility Name: Charleston Naval Base Complex, NS 708

Street Address: 1468 Hobson Ave.

City: North Charleston

County: Charleston

**III CLOSURE INFORMATION**

Closure Started: 3 June 1996

Closure Completed: 3 June 1996

Number of USTs Closed: 1

N/A

SPORTENVDETHASN

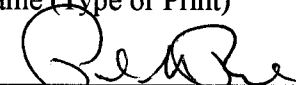
Consultant

UST Removal Contractor

**IV. CERTIFICATION (Read and Sign after completing entire submittal)**

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.

Paul M. Rose  
Name (Type or Print)

  
Signature

RECEIVED  
OCT 11 1996  
Groundwater Protection  
Division

## V. UST INFORMATION

- A. Product.....
- B. Capacity.....
- C. Age.....
- D. Construction Material.....
- E. Month/Year of Last Use.....
- F. Depth (ft.) To Base of Tank.....
- G. Spill Prevention Equipment Y/N.....
- H. Overfill Prevention Equipment Y/N.....
- I. Method of Closure Removed/Filled.....
- J. Visible Corrosion or Pitting Y/N.....
- K. Visible Holes Y/N.....

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Fuel oil					
280					
> 20 yrs					
Steel					
4/96					
6'					
N					
N					
R					
N					
N					

- L. Method of disposal for any USTs removed from the ground (attach disposal manifests).

UST NS 708 was removed, drained and cleaned. It was then cut up for recycling as scrap metal. See Attachment III.

- M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests).

Residual waste oil was pumped into a 55 gallon drum and recycled.

- N. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST.

Tank appeared to be in good condition. No corrosion, holes, or pitting was found.

## VI. PIPING INFORMATION

- A. Construction Material.....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....
- D. Type of System P/S.....
- E. Was Piping Removed from the Ground? Y/N....
- F. Visible Corrosion or Pitting Y/N.....
- G. Visible Holes Y/N.....
- H. Age.....

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Copper					
N/A (See Note 1)					
N/A (See Note 1)					
S					
Y					
N					
N					
> 20 Yrs					

Note 1: UST 708 provided heating oil for a residence.

- I. If any corrosion, pitting, or holes were observed, describe the location and extent for each line.

No corrosion, pitting or holes were observed.

## VII. BRIEF SITE DESCRIPTION AND HISTORY

NS 708 served as housing for naval personnel and their families. UST 708 provided heating oil for the residence.

## VIII. SITE CONDITIONS

Yes No Unk

<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>		X	
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p>		X	
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)?</p> <p>_____</p>		X	
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p> <p>_____</p>		X	
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p>If yes, indicate location and thickness.</p>		X	

## IX. SAMPLE INFORMATION

S.C.D.H.E.C. Lab Certification Number 10120

[illegible]

\* = Depth Below the Surrounding Land Surface

## **X. SAMPLING METHODOLOGY**

**Provide a detailed description of the methods used to collect and store (preserve) the samples.**

After the removal of UST 708 soil samples were taken. The soil samples were collected from the bottom of the excavation from native soils at a depth of 6' below land surface as shown in Site Map Number 2. Sampling was performed in accordance with SC DHEC R.61-92 Part 280 and SC DHEC UST Assessment Guidelines.

The samples are identified as follows:

	Detachment Charleston		General Engineering Labs
Soil Sample	UST708-1	=	SPORT -0063-1
Soil Sample	UST708-2	=	SPORT -0063-2

Sample jars were prepared by the testing laboratory. The grab method was utilized to fill the sample containers leaving as little head space as possible and immediately capped.

The samples were marked, logged, and immediately placed in sample coolers packed with ice to maintain an approximate temperature of 4° C. Tools were thoroughly cleaned and decontaminated with organic-free soap and water after each sample.

The samples remained in the custody of SPORTENVDETHASN until they were transferred to General Engineering Laboratories for analysis as documented in the attached Chain-of-Custody Record.



## XI. RECEPTORS

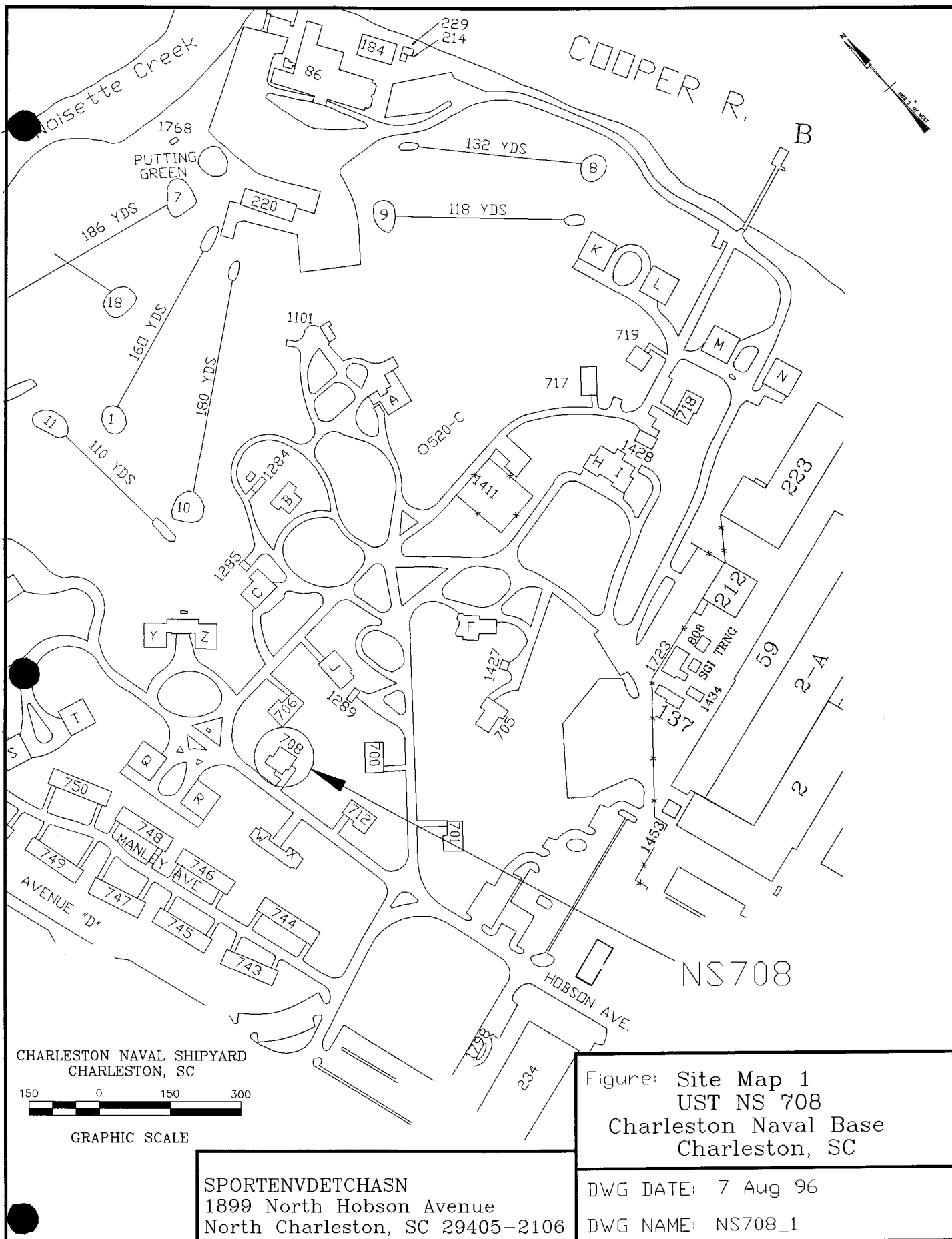
Yes    No

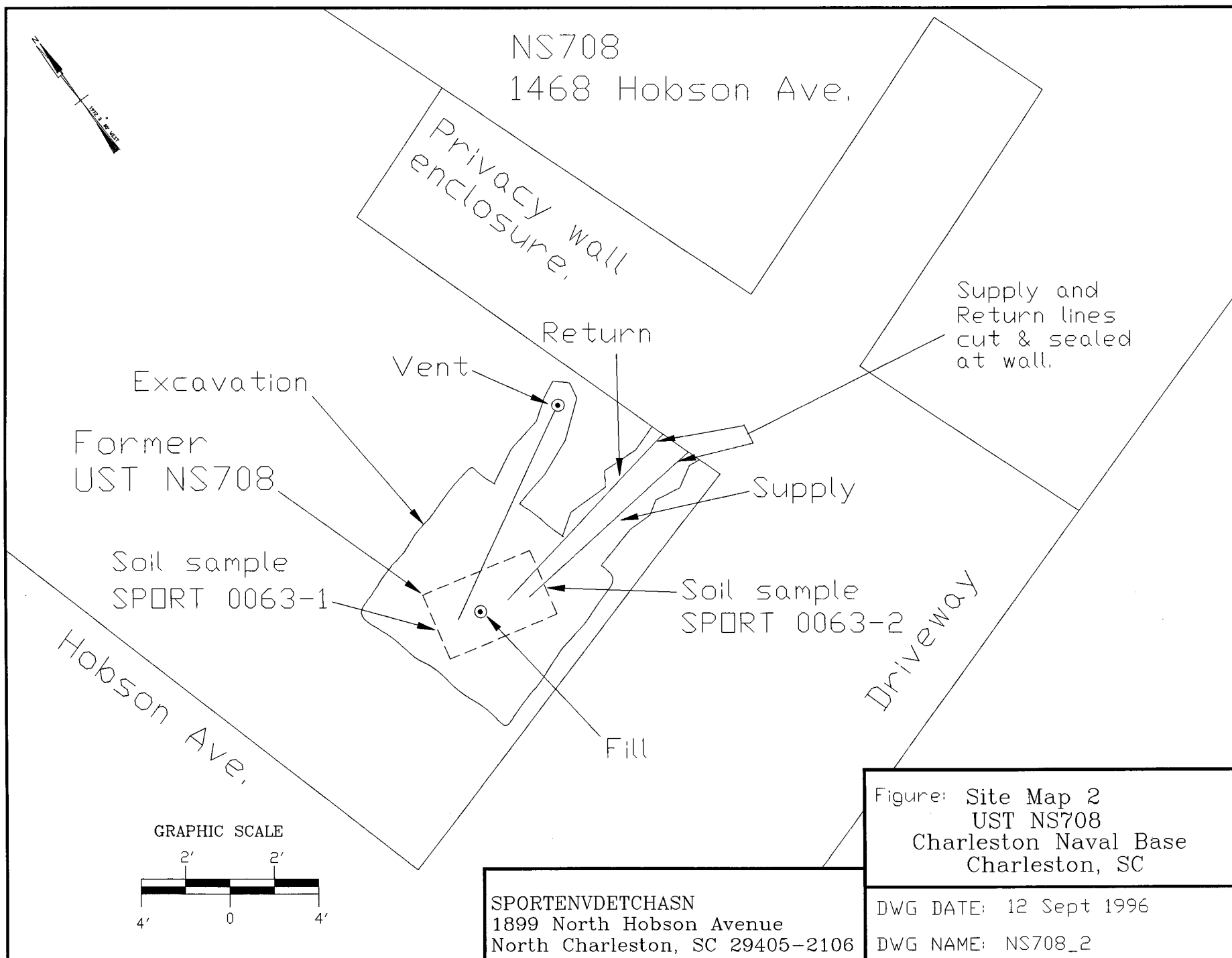
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?  If yes, indicate type of receptor, distance, and direction on site map.		X
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?  If yes, indicate type of well, distance, and direction on site map.		X
C.	Are there any underground structures (e.g., basements) located within 100 feet of the UST system?  If yes, indicate the type of structure, distance, and direction on site map.		X
D.	Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? <div style="text-align: right;">[*see Site Map 3]</div> If yes, indicate the type of utility, distance, and direction on the site map.	X*	
E.	Has contaminated soil been identified at a depth of less than 3 feet below land surface in an area that is not capped by asphalt or concrete?  If yes, indicate the area of contaminated soil on the site map.		X

**SITE MAP**

You must supply a scaled site map. It should include all buildings, road names, utilities, tank and pump island locations, sample locations, extent of excavation, and any other pertinent information.

Site Maps 1, 2, and 3  
No photographs available





NS708  
1468 Hobson Ave.

NS700

Electrical  
Substation

Storm drain  
cofferdam

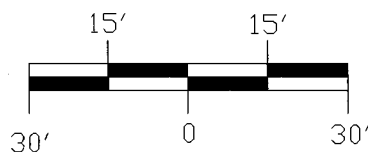
Firemain  
Water

Former  
UST NS708

Hobson Ave.

NS712

GRAPHIC SCALE



SPORTENVDETHASN  
1899 North Hobson Avenue  
North Charleston, SC 29405-2106

Figure: Site Map 3  
UST NS708  
Charleston Naval Base  
Charleston, SC

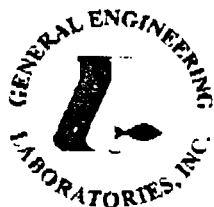
DWG DATE: 19 Aug 1996  
DWG NAME: NS708\_3

**Attachment II**

**ANALYTICAL RESULTS**

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

Certified Analytical Results  
Chain-of-Custody



# GENERAL ENGINEERING LABORATORIES

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## CERTIFICATE OF ANALYSIS

Client: Supervisor of Ship Building & Conversion  
SUPSHIP-Portsmouth Detachment-Env.  
1899 North Hobson Ave.  
North Charleston, South Carolina 29405-2106  
Contact: Mr. Bill Hiers  
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: June 10, 1996

Page 1 of 3

Sample ID : SPORT-0063-1  
Lab ID : 9606024-01  
Matrix : Soil  
Date Collected : 06/03/96  
Date Received : 06/03/96  
Priority : Routine  
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatile Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JAC	06/04/96	2012	85523	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	J	1.20	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene		7.50	1.00	2.00	ug/kg	1.0					
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	666	1330	ug/kg	4.0	RLC	06/04/96	2001	85513	2
Acenaphthylene	U	0.00	666	1330	ug/kg	4.0					
Anthracene	U	132	666	1330	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	666	1330	ug/kg	4.0					
Benzo(a)pyrene	U	160	666	1330	ug/kg	4.0					
Benzo(b)fluoranthene	U	306	666	1330	ug/kg	4.0					
Benzo(ghi)perylene	U	111	666	1330	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	666	1330	ug/kg	4.0					
Chrysene	U	466	666	1330	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	48.0	666	1330	ug/kg	4.0					
Fluoranthene	U	639	666	1330	ug/kg	4.0					
Fluorene	U	85.2	666	1330	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	386	666	1330	ug/kg	4.0					
Naphthalene	U	0.00	666	1330	ug/kg	4.0					
Phenanthrene	U	480	666	1330	ug/kg	4.0					
Pyrene	U	493	666	1330	ug/kg	4.0					

The following prep procedures were performed:  
GC/MS Base/Neutral Compounds

TSD 06/04/96 1030 85513 3



P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 • 9606024-01\*



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TEL: 803-556-5812

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## CERTIFICATE OF ANALYSIS

Client: Supervisor of Ship Building & Conversion  
SUPSHIP-Portsmouth Detachment-Env.  
1899 North Hobson Ave.  
North Charleston, South Carolina 29405-2106  
Contact: Mr. Bill Hiatt  
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: June 10, 1996

Page 2 of 3

Sample ID : SPORT-0063-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	---

### Comments:

A dilution was required for Extractables due to matrix interference.  
As a result, the detection limits were elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	89.8	(30.0 - 115.)
Nitrobenzene-d5	M610	90.6	(23.0 - 120.)
p-Terphenyl-d14	M610	97.8	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	118.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	101.	(74.0 - 128.)
Toluene-d8	BTEX-8260	104.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	118.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	101.	(74.0 - 128.)
Toluene-d8	NAP-8260	104.	(53.4 - 163.)

### M = Method

### Method-Description

M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

### Notes:

The qualifiers in this report are defined as follows:

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

GEL Laboratory Certifications

EPI Laboratory Certifications

\*9606024-01\*

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North Charleston, South Carolina 29405-2106  
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Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: June 10, 1996

Page 3 of 3

Sample ID : SPORT-0063-1

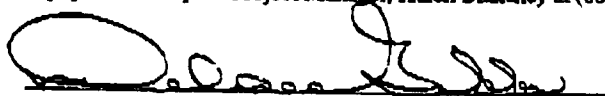
### GEL Laboratory Certifications

AL - 41040  
CA - 2089  
DE - SC012  
ME - SC012  
NC - 233  
RI - 135  
TN - 02934  
VA - 00151  
WI - 999887790  
AZ - AZ0514  
CT - PH-0169  
FL - E87156/87294  
MS - 10120  
NY - 11501  
SC - 10120  
UT - E-251  
WA - C223

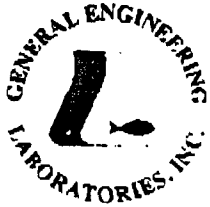
### EPI Laboratory Certifications

AL - 41050  
CA - I-1023/2056  
FL - E87472/87458  
NY - 11502  
SC - 10582  
UT - E-227  
WA - C225  
PA - 68-485  
AZ - AZ0514  
CT - PH-0175  
MS - 29417  
RI - 138  
TN - 02934  
VA - 00111  
NJ - 79002  
WV - 235

This data report has been prepared and reviewed  
in accordance with General Engineering Laboratories  
standard operating procedures. Please direct  
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

  
Analytical Report Specialist





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North Charleston, South Carolina 29405-2106  
Contact: Mr. Bill Hiers  
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: June 10, 1996

Page 1 of 3

Sample ID : SPORT-0063-2  
Lab ID : 9606024-02  
Matrix : Soil  
Date Collected : 06/03/96  
Date Received : 06/03/96  
Priority : Routine  
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatile Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JAC	06/05/96	1212	85523	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	J	671	658	1320	ug/kg	4.0	RLC	06/04/96	2031	85513	2
Acenaphthylene	U	0.00	658	1320	ug/kg	4.0					
Anthracene	U	645	658	1320	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	658	1320	ug/kg	4.0					
Benzo(a)pyrene	U	171	658	1320	ug/kg	4.0					
Benzo(b)fluoranthene	U	316	658	1320	ug/kg	4.0					
Benzo(ghi)perylene	U	111	658	1320	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	658	1320	ug/kg	4.0					
Chrysene	U	526	658	1320	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	658	1320	ug/kg	4.0					
Fluoranthene	J	1260	658	1320	ug/kg	4.0					
Fluorene	J	1030	658	1320	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	382	658	1320	ug/kg	4.0					
Naphthalene	U	263	658	1320	ug/kg	4.0					
Phenanthrene		3500	658	1320	ug/kg	4.0					
Pyrene	J	1050	658	1320	ug/kg	4.0					

The following prep procedures were performed:  
GC/MS Base/Neutral Compounds

TSD 06/04/96 1030 85513 3



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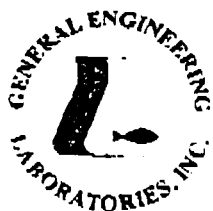


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cc: NPWC00196

Report Date: June 10, 1996

Page 2 of 3

Sample ID : SPORT-0063-2

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	---

### Comments:

A dilution was required for Extractables due to matrix interference.  
As a result, the detection limits were elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	75.0	(30.0 - 115.)
Nitrobenzene-d5	M610	70.2	(23.0 - 120.)
p-Terphenyl-d14	M610	90.2	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	108.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	94.0	(74.0 - 128.)
Toluene-d8	BTEX-8260	94.4	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	108.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	94.0	(74.0 - 128.)
Toluene-d8	NAP-8260	94.4	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

### Notes:

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GEL Laboratory Certifications

EPI Laboratory Certifications

\*9606024-02\*

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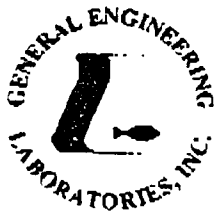
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# GENERAL ENGINEERING LABORATORIES

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## CERTIFICATE OF ANALYSIS

Client: Supervisor of Ship Building & Conversion  
SUPSHIP-Portsmouth Detachment-Env.  
1899 North Hobson Ave.  
North Charleston, South Carolina 29405-2106  
Contact: Mr. Bill Hiers  
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: June 10, 1996

Page 3 of 3

Sample ID : SPORT-0063-2

### GEL Laboratory Certifications

AL - 41040  
CA - 2089  
DE - SC012  
ME - SC012  
NC - 233  
RI - 135  
TN - 02934  
VA - 00151  
WI - 999887790

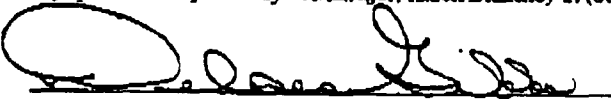
AZ - AZ0514  
CT - PH-0169  
FL - E87156/87294  
MS - 10120  
NY - 11501  
SC - 10120  
UT - E-251  
WA - C223

### EPI Laboratory Certifications

AL - 41050  
CA - I-1023/2056  
FL - E87472/87458  
NY - 11502  
SC - 10582  
UT - E-227  
WA - C225  
PA - 68-485

AZ - AZ0514  
CT - PH-0175  
MS - 29417  
RI - 138  
TN - 02934  
VA - 00111  
NJ - 79002  
WV - 235

This data report has been prepared and reviewed  
in accordance with General Engineering Laboratories  
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any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

  
Analytical Report Specialist

Nr 00196

General Engineering & Machinery, Inc.  
2040 Savage Road  
Charleston, South Carolina 29414  
P.O. Box 30712  
Charleston, South Carolina 29417  
(803) 556-8171

## CHAIN OF CUSTODY RECORD

Page 1 of 1 9601024

J.O. 645046 CEP 99

[illegible]

**White = sample collector**

**Yellow = file**

**Pink = with report**

**Attachment III**

Certificate of Disposal (tank)

O.S. Utthem, 8/15/96

(Name) (Date)